



**ELECTRONIC
INNOVATIONS
IN ACTION**

TUBES

Beam Pentode

6LQ6

**FOR TV HORIZONTAL-DEFLECTION
AMPLIFIER APPLICATIONS**

DARK HEATER

PLATE CURRENT 30 WATTS

NOVAR TYPE

OVERLOAD Pb 200 WATTS

The 6LQ6 is a double-ended high perveance beam power pentode. This tube is especially useful as a horizontal-deflection amplifier tube in color-TV receivers.

Features of the 6LQ6 are, the endurance of excessive plate dissipation, the withstanding of a 200 watt plate dissipation for a period of time sufficient enough to permit conventional receiver protection devices to function and the capability to meet the stringent requirements of color-television deflection circuits.

GENERAL

ELECTRICAL

Cathode — Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC 6.3 Volts

Heater Current 2.3 Amperes

Direct Interelectrode Capacitances •

Grid No. 1 to Plate (G1 to P) 0.56 pF

Input G1 to (K,G3,G2,H) 22 pF

Output P to (K,G3,G2,H) 11 pF

MECHANICAL

Operating Position — Any

Envelope T-12

Base E9-88 Large Button Novar 9-Pin with Exhaust Tip

Top Cap C1-1 Small

Outline Drawing EIA 12-117

Maximum Diameter 1.562 Inches

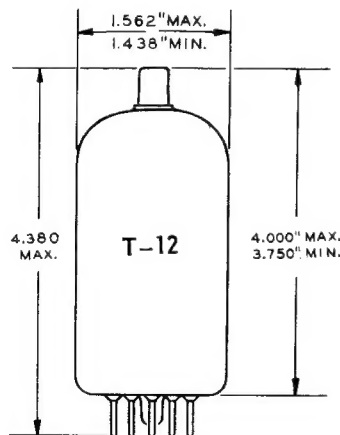
Minimum Diameter 1.438 Inches

Maximum Over-all Length 4.380 Inches

Maximum Seated Height 4.000 Inches

Minimum Seated Height 3.750 Inches

PHYSICAL DIMENSIONS



12-117

TERMINAL CONNECTIONS

Pin 1 — Grid No. 2

Pin 2 — Grid No. 1

Pin 3 — Cathode

Pin 4 — Heater

Pin 5 — Heater

Pin 6 — Grid No. 1

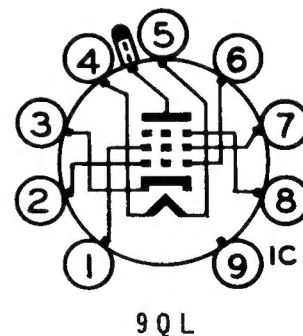
Pin 7 — Grid No. 2

Pin 8 — Grid No. 3

Pin 9 — Internal Connection
(Do Not Use)

Top Cap — Plate

BASING DIAGRAM



Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

MAXIMUM RATINGS

HORIZONTAL-DEFLECTION AMPLIFIER —DESIGN-MAXIMUM VALUES

DC Plate Supply Voltage	990	Volts
Peak Positive-Pulse Plate Voltage [Ⓢ]	7500	Volts
Peak Negative-Pulse Plate Voltage	1100	Volts
DC Grid-No. 3 Voltage [‡]	75	Volts
DC Grid-No. 2 (Screen-Grid) Voltage	220	Volts
Peak Negative-Pulse Grid-No. 1 (Control-Grid) Voltage	330	Volts
Heater-Cathode Voltage		
Peak	±200	Volts
Average	100	Volts
Heater Voltage, ac or dc	5.7 to 6.9	Volts
Cathode Current		
Peak	1200	Milliamperes
Average	350	Milliamperes
Grid-No. 2 Input	5	Watts
Plate Dissipation [§]	30	Watts
Temporary Overload Plate Dissipation [#]	200	Watts
Envelope Temperature (at hottest point on envelope surface)	250 [°]	C

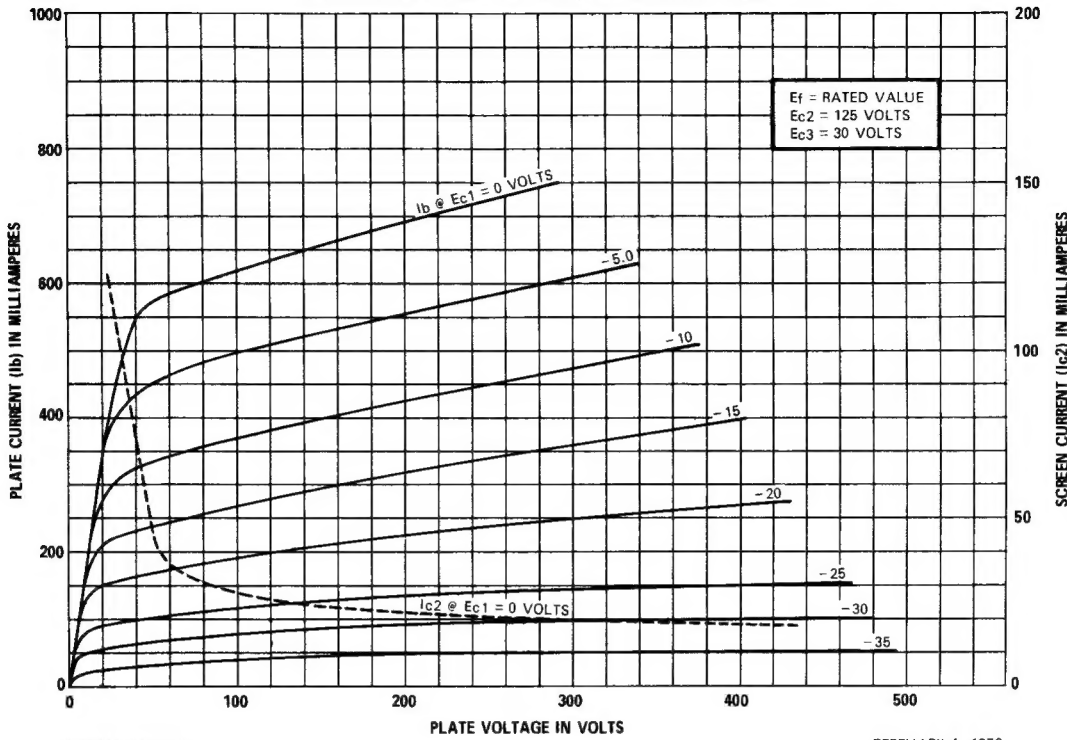
MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance		
For Grid-No. 1 resistor-bias operation	0.47	MΩ
For Plate-pulsed operation (horizontal-deflection circuits only)	10	MΩ

CHARACTERISTICS AND TYPICAL OPERATION

Amplification Factor (Triode Connection) [♦]	—	—	3 [▲]	—	—	2.8 [♦]	
Plate Resistance (Approx.)	—	—	5800	—	—	7000	Ω
Transconductance	—	—	9600	—	—	7500	μ mho
DC Plate Current	—	—	580 [*]	130	—	710 [*]	95
DC Grid No.2 Current	—	—	40 [*]	2.8	—	55 [*]	2.4
Cutoff DC Grid No. 1							
Voltage for I _b = 1mA	-120	—	-54	125	—	-60	Volt
Heater Voltage	← BOGEY VALUE →						Volt
Peak Positive-Pulse							
Plate Voltage [†]	5000	—	—	5000	—	—	Volt
DC Plate Voltage	—	—	55	175	—	60	175
DC Grid No. 3 Voltage	30	30	30	30	30	30	Volt
DC Grid No. 2 Voltage	125	125	125	145	145	145	Volt
DC Grid No. 1 Voltage	—	—	0	-25	—	0	-35

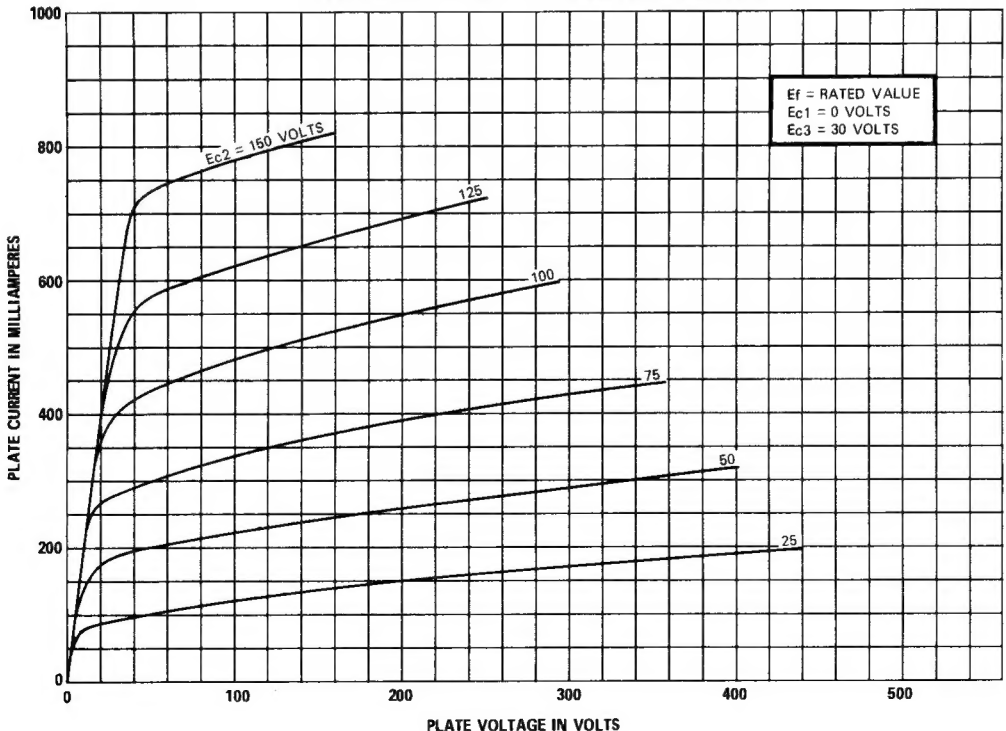
AVERAGE PLATE CHARACTERISTICS



K-55611-TD367-2

FEBRUARY 4, 1970

AVERAGE PLATE CHARACTERISTICS



NOTES

- Without external shield.
- ♦ With grid No. 3 and grid No. 2 connected respectively to cathode and plate at socket.
- ▲ Conditions: $E_b = E_{c2} = 125 \text{ V}$, $E_{c1} = -25 \text{ V}$.
- Conditions: $E_b = E_{c2} = 145 \text{ V}$, $E_{c1} = -35 \text{ V}$.
- * This value can be measured by a method involving a re current waveform such that the Maximum Ratings of the tube will not be exceeded.
- † Under pulse-duration condition specified in Footnote ⑥
- ⑥ For operation in a 525-line, 30 frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.
- ‡ In horizontal-deflection-amplifier service, a positive voltage should be applied to grid No. 3 to reduce interference from "snivets" which may occur in both vhf and uhf television receivers, and to increase power output. A typical value is 30 V.
- § An adequate bias resistor or other means is required to protect the tube in the absence of excitation.
- # Total continuous or accumulated time not to exceed 40 seconds.

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